

# Nuclear Division News



A Newspaper for Employees of the Nuclear Division, Union Carbide Corporation

Vol. 7, No. 3/February 5, 1976

## UCC makes improvements in Benefit Plans

Major improvements in benefit plans and establishment of a Dental Expense Assistance Plan have been announced by the Corporation. Incorporation of the improvements in the benefit plans for the Nuclear Division will require approval of the Energy Research and Development Administration. ERDA will be asked for approval to make the changes, effective on the dates indicated in UCC's announcement, for all Nuclear Division salaried employees.

The UCC announcement indicated the following improvements:

### Pension Plan

"Improvements in the Pension Plan, which are effective for employees who retire on or after January 1, 1976, include the following:

"\*Average earnings will now be based on the employee's final three years of employment or, if greater, the highest three of the final ten calendar years.

"\*The regular formula for figuring pensions continues at 1.2% of average

straight-time monthly earnings, times the years of credited service, except that a flat sum of \$12 per month is added to the benefit under this formula for normal, early, or disability retirements.

"\*An alternate regular formula for pensions has been established. This formula provides a monthly benefit of 1.5% of average straight-time monthly earnings, times the years of credited service, minus a Social Security offset not to exceed 50 percent of the primary Social Security benefit.

"\*A new minimum formula provides a benefit of \$5 per month for each of the first 10 years of credited service, plus \$6.50 per month for the 11th through 20th years of credited service, plus \$8 per month for each year of credited service over 20 years, plus 10 percent of the average straight-time monthly earnings, or one percent per year of credited service, if less than 10 years.

"\*Another benefit enables employees to retire with full pensions when age plus years of credited

service equal 85. Employees are still entitled to full pension benefits at age 62 with 10 years of credited service. In addition, an employee may retire as early as age 50 — with a reduced benefit — if he/she has 10 years of credited service.

"\*The age requirement (age 55) for a pre-retirement survivor's benefit has been eliminated. If you die while employed, after completing 10 years of credited service, a benefit will be paid to your spouse for life, or to a dependent child until age 23, or to a dependent parent for life.

"\*There is no longer any service requirement for retirement with a pension benefit at age 65.

"\*After you have completed 10 years of credited service with the Corporation, you have a vested right to a pension, regardless of age.

### Related improvements

"If an employee takes early retirement, with a full or reduced benefit, or retires with a disability benefit on or after January 1, 1976, the Company will pay half the cost of

basic hospitalization coverage for the employee and eligible dependents, and half the cost of major medical coverage for the employee and eligible dependents, until the employee becomes eligible for Medicare.

"The two-month waiting period for group life insurance coverage will be eliminated effective February 1, 1976.

### Dental expense assistance

"Effective June 1, 1976, a new Dental Expense Assistance Plan will be provided for employees with at least one year of credited service and for their eligible dependents. Eligible dependents are your spouse and your unmarried dependent children under age 23.

"This plan is not intended to pay all dental expenses. It will provide assistance in meeting your dental bills. Basic provisions include:

"1. Benefits are payable according to a schedule of allowances. For preventive and diagnostic services there is no deductible. For other services, there is a deductible of \$25 per year for each covered person. The deductible is applied against the schedule of allowance, not against the actual charges by the dentist.

"2. Maximum benefits payable under the plan are \$500 in any year for each covered person, with a lifetime maximum benefit of \$5,000. These maximums include a \$500 lifetime maximum for orthodontic treatment which is available only to children under 19.

"These are merely the highlights of the benefit plan improvements announced by Union Carbide Corporation. Full, detailed descriptions and explanations of the revised benefit plans will be forthcoming in the near future."

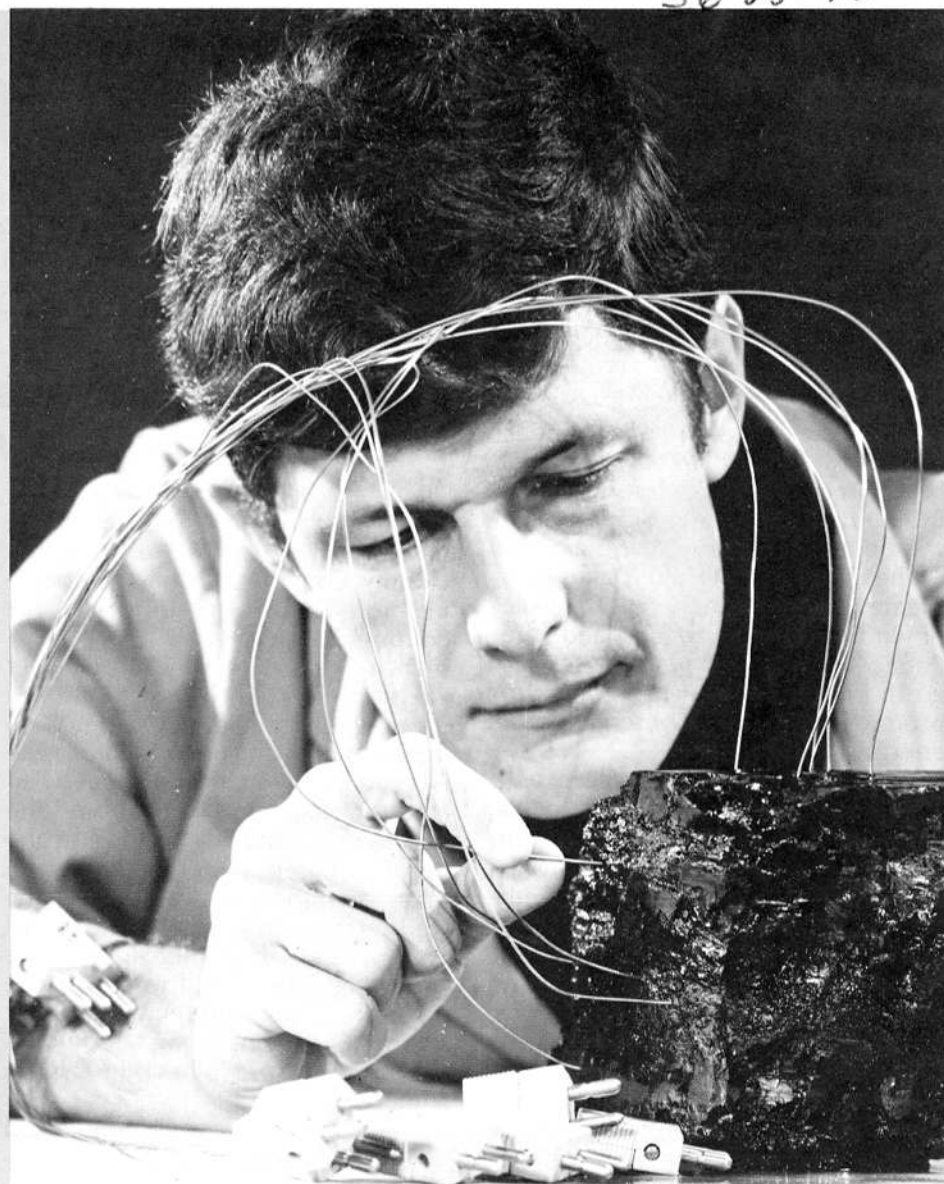
### Hourly employees

Hourly employees are provided benefits in accordance with terms of the agreement between the union representing them and the Company. Any changes in their benefits are subject to negotiations between the parties involved.

## Taking the Temperature of Coal

Richard C. Forrester, chemical engineer at Oak Ridge National Laboratory, inserts temperature-sensing thermocouples in holes drilled at precise spacings in a coal specimen. The experiment seeks to determine the heat-transfer properties of large pieces of coal. Such data are necessary for field designs of underground coal gasification processes which could permit energy to be recovered economically from coal deposits that are too thin or too deep for conventional surface or deep-mining techniques.

The work at ORNL is in support of the Energy Research and Development Administration's effort to develop this "in situ" method for conversion of bedded coal to flammable gas which would then be piped to the surface. Forrester and his colleagues in the ORNL Chemical Technology Division are investigating a "pyrolysis" process, in which coal is converted to gas by slowly heating it in the absence of oxygen to temperatures as high as 1800 degrees F.



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## Planned activities announced

## Engineers' Week set for February 22-27

Many Nuclear Division employees are involved in activities planned for the annual observance of National Engineers' Week, scheduled for February 22-27. The event is sponsored by 19 technical society chapters in the Oak Ridge/Knoxville area.

This year's theme is "American Ingenuity — 200 Years of Engineering." Most of the activities will be held at the Hyatt Regency Hotel in Knoxville, according to

• An "inaugural" luncheon, set for February 23, will formally kick off the week's activities. Attendees will include mayors of area cities, local state legislators, management representatives of engineering and major employer organizations, local engineers and their guests.

Knoxville Mayor Randy Tyree will present the welcome, and Lochlin W. Caffey, director of the Clinch River Breeder Reactor Project, will give the keynote address. Sponsoring tech-

Society of Safety Engineers; American Society for Nondestructive Testing; American Welding Society; Institute of Electrical and Electronic Engineers; Instrument Society of America and Society of Manufacturing Engineers in concert with the Engineers' Week activities of the local sections of the Tennessee Society of Professional Engineers, American Society of Certified Engineering Technicians, American Institute of Architects, American College of Surveyors, American Institute of Chemical Engineers, American Institute of Industrial Engineers and the Association of Cost Engineers.

• A special feature of the WATtec program this year will be a symposium for public awareness on energy, scheduled for Feb. 27. The purpose of the symposium is to encourage non-technical organizations to establish programs to disseminate factual information on energy matters.

Participation in the symposium will be by invitation only, and is expected to include national officers and representatives from a cross-section of civic, fraternal, service and labor organizations. Speakers will include

Dixy Lee Ray, former chairman of the Atomic Energy Commission, and Herman Postma, ORNL Director.

• A banquet on February 27 will wrap up Engineers' Week. Mike McCormack, U.S. Representative from the state of Washington, will present the banquet address.

William O. Harms, ORNL, is general chairman for the conference. Members of the executive committee include John Koger, Y-12; Fred Mundt, ORGDP, and J. A. "Al" Stanton, Y-12.

Tom E. Douglass, ORGDP, serves as liaison officer for the Tennessee Society of Professional Engineers. The advisory board includes Robert Stepp, ORGDP, and James Thompson, Y-12.

Chairmen of committees are: Gordon Fee, ORNL, Arrangements; Paul Boyer, Y-12, Exhibits; F.S. "Pat" Patton, ORGDP, Public Awareness; Dominic A. Canonico, ORNL, Registration; and Norbert Ackermann, ORNL, Technical Program.

Session organizers and leaders include Sam Beall, Robert Pearlstein, Floyd Culler, John Holmes, Murray Rosenthal and Donald Trauger, all of ORNL.



Engineering exhibits fill the lobby of Knoxville's Hyatt Regency Hotel in scenes from last year's WATtec Conference.

James Beavers, ORGDP, who serves as public relations chairman for Engineers' Week.

Some highlights of the week follow:

• Exhibits designed to inform the general public of engineering-related activities will be on display at the West Town Mall, February 22-26. Included will be one of the moon boxes fabricated at the Y-12 Plant.

• A special 12-page supplement on engineers and engineering topics will be published in the February 22 issue of the Knoxville News-Sentinel. The supplement will include articles written by several Nuclear Division staff members from various engineering disciplines.

Hugh Beeson, Experimental Engineering at ORNL, has written an article titled "The Energy Crisis is Real." James Beavers, writes about tornadoes from an engineering point of view; an article on the Annual Cycle Energy System is authored by Harry Fischer and Clifford Burchsted, ORNL; Pat Franklin, ORGDP, discusses careers in engineering for women; Don Steiner, ORNL, writes about fusion and energy for the future, and Mel Feldman, ORNL, discusses power parks.

nical societies will present awards to their outstanding members.

## WATtec set Feb. 26-27

• The biggest event of the week will be the third annual Interdisciplinary Conference and Exhibition, known as WATtec, which will be held February 26 and 27.

The two-day conference takes as its theme this year, "Energy — The Role of Industry, Technology and the Public." The program features several well-known speakers on the production, use and conservation of energy.

Exhibits by local industrial firms will be displayed in the main lobby at the Hyatt Regency. Representatives from the various companies will be available to discuss their exhibit with visitors.

Activities planned during Engineers' Week are sponsored by local sections of the following societies: the American Nuclear Society; American Society of Civil Engineers; American Society of Heating, Refrigerating and Air-Conditioning Engineers; American Society for Metals; American Society of Mechanical Engineers; American



ENGINEERS' WEEK PLANNERS — Shown during a planning session for Engineers' Week activities are, from left: F.S. Patton, chairman of the Public Awareness Symposium; G. R. Kreigsmann, chairman of the Sponsors committee; William Harms, general chairman for WATtec; Tom Douglass, liaison to Tennessee Society of Professional Engineers; and N.J. Ackermann, chairman of the Technical Program committee.

## Paducah employees contribute more than one-third of United Way budget

Nuclear Division employees at the Paducah Plant have pledged more than \$45,000 to the McCracken County Community Chest, accounting for almost one-third of that county's budget.

Each year the one-time-a-year campaign is held to provide money for needed agencies in the area. Two methods of giving are provided. One is a straight deduction of a specified amount to be taken from the paycheck each week or month; the other is based on a percentage of gross earnings which causes the deductions to increase as an employee's salary increases. More than half the employees at the Paducah Plant prefer the latter method. Persons may also contribute by cash or check in a lump sum.

Paducah employees also supported United Fund agencies in neighboring counties: Ballard County, \$5,000; Graves County, \$4,000; Marshall

County, \$570; Massac (Ill.) County, \$21,000 and Mississippi (Mo.) County, \$520. Total contributions this year came to more than \$57,000.

In addition to the support Nuclear Division employees gave the United Fund, Union Carbide Corporation also made a \$2,000 contribution to McCracken County agencies.

## Benefit art show, auction February 22

The Oak Ridge Chapter of Hadassah will sponsor a benefit exhibit and auction of fine art Sunday, February 22, at the Alexander Motor Inn, Oak Ridge.

There will be an exhibition from 2 to 3 p.m., with wine and cheese to be served. The auction begins at 3 p.m.; there is no admission fee. Additional information may be obtained from Mrs. Max Kimmelman, Oak Ridge telephone 483-7972.



## retirements



N. Bush



M. Conner



R. Freeman



C. Fultz



R. Hartman

Seven Y-12ers retired at the end of January, marking more than 200 years combined company service.

Nevil H. Bush, buildings, grounds and maintenance shops, has more than 32 years with Union Carbide. He lives at Route 2, Harriman.

Maola E. Conner lives at 501 West 5th Avenue, Lenoir City. She has been in Y-12 stores more than 25 years.

Robert H. Freeman, electrical and electronics, joined the Y-12 force in 1945. He lives at Route 6, Clinton.

Chester R. Fultz, laboratory development, lives at Kingston. His early retirement closes out more than 31 years service.

Ralph R. Hartman, research services, lives at Route 17, Knoxville. He



A. Hooker



N. Wise

retires with more than 25 years service.

Archie P. Hooker, research services, has more than 31 years service with Union Carbide. He lives at 415 Hicks Circle, Clinton.

Newman W. Wise, general shops, joined Union Carbide 24 years ago. He lives at 1102 West Adair Drive, Knoxville.



W. Laughlin



J. Adcock



J. Seeber



D. Davis



A. Kimbrough



J. Lane



O. Moss



E. Stapleton



J. Webb

W. David Laughlin retired from Y-12's building services department at the end of the year, with more than 23 years' company service. He lives at 121 Lansing Road, Oak Ridge.

Joseph S. Adcock, a welder in the Maintenance Division at the Oak Ridge Gaseous Diffusion Plant, with more than 31 years company service, will retire at the end of this month. He lives at Coalfield.

John Seeber, Fabrication and Maintenance, just retired with more than 30 years company service. He lives at Route 2, Oliver Springs.

Six Oak Ridge National Laboratory employees retired at the end of January.

Delbert G. Davis, a development engineer in Instrumentation and Controls Division, retired after nearly 32 years' company service. He lives at

113 East Hutchinson Circle, Oak Ridge.

Adrian C. Kimbrough, also with 32 years' company service, retired from his position as a mechanical instrument maker in Plant and Equipment Division. His home is at 5009 Macmont Circle, Powell.

James A. Lane, a senior research staff member in Director's Division, has taken early retirement. Lane, a 29-year Laboratory employee, lives at Route 2, Ten Mile.

Oscar D. Moss has retired from his position as a painter in Plant and Equipment Division. Moss, who joined the staff in 1945, lives at 105 Salem Road, Oak Ridge.

Embree C. Stapleton, a millwright in Plant and Equipment Division, has retired after 17 years' employment. His home is at 1007 Fair Avenue, Knoxville.

Jesse R. Webb, a biological laboratory technician in Biology Division, has taken early retirement. Webb joined the Laboratory staff in 1944. He lives at 121 Johnson Road, Oak Ridge.

## C-Plant Credit Union sets annual meeting

The twenty-fifth annual meeting of the C-Plant Employees Federal Credit Union will be held at 1:30 p.m. Sunday, February 15, at the Civic Center in Paducah.

Four persons will be elected to the board of directors and two to the credit committee. Candidates for election to the board are Jesse Knott, Harold Howell, Shirley Keeling, A. B. Moore Jr., Morris Shelton and John Hornsby. Credit committee candidates are Ed Wilkins, K. O. Owens and J. C. Watkins.

## Wigner Fellowships created for energy-related research

A postdoctoral fellowship program has been established at Oak Ridge National Laboratory honoring Eugene P. Wigner, Nobel laureate and first Director of Research and Development for Clinton Laboratories, ORNL's predecessor.

The Wigner Fellowship Program will offer five new two-year appointments each year. The Fellowships will provide an opportunity for physical, social and life scientists and engineers no more than three years past the doctorate degree to gain experience in areas of science and technology related to national energy problems and needs. Benefits include fully competitive salaries and travel and relocation expenses.

Wigner, who won the Nobel Prize for Physics in 1963, was one of the principal founders of the emergency technology section in ORNL's Health Physics Division and currently acts as a consultant to that group, spending the remainder of his time at Princeton University. A pioneer in atomic physics, he was involved with the Manhattan Project at the University of Chicago from 1942 until 1945.

### FEBRUARY 16 HOLIDAY

Monday, February 16, is an official holiday for Nuclear Division employees, as the nation observes the Presidents' birthdays... a combined observation for the birthdates of Washington and Lincoln.

No employee is required to be at work unless his presence is required by plant security or continuous operations.

## Atherton, Thompson, Wurth earn promotions in Paducah Maintenance



C. B. Atherton



D. L. Thompson



K. E. Wurth

In addition to the Nobel Prize, official recognition of Wigner's work in nuclear research includes the U.S. Medal for Merit, presented in 1946; the Enrico Fermi Award, presented by the U.S. Atomic Energy Commission in 1958, and the Atoms for Peace Award, presented in 1960.



Eugene Wigner: Clinton Laboratories director, Emergency Technology founder

The Wigner Fellowship appointments will be non-renewable. However, with Laboratory concurrence it will be possible for the Fellow to transfer to the host Laboratory division's payroll as a permanent employee.

Individuals interested in applying for a Eugene P. Wigner Fellowship are invited to write to ORNL's Office of Professional and University Relations.

Three employees have been promoted at the Paducah Gaseous Diffusion Plant.

Clara B. Atherton has been named an inspector in the Fabrication and Maintenance Division; Kenneth E. Wurth and David L. Thompson have been promoted to supervisor trainees.

Mrs. Atherton, a native of Boaz, joined Union Carbide last year. She was self-employed in a beauty shop in the Paducah area before then. She lives on Clinton Road, Paducah. Her son, Ronald, is a machinist at the Paducah Plant, and she has four other children.

David L. Thompson was born in Paducah, and joined the Plant in 1973. He attended Paducah Junior College and has a B.S. degree in industrial education from Murray State University.

Thompson and his wife, Nancy Jo, live at 5641 Benton Road, Paducah. They have two sons.

Kenneth E. Wurth is also a native of Paducah. He served in the U.S. Air Force four years before attending the F.I.T. school at the Paducah Plant in 1972.

He and his wife, the former Sharon Ann Walldridge, live at 2905 Old Mayfield Road, Paducah. They have a daughter.



## Deer crossing highways create hazard for drivers

It was a cold wintry night. The air was crisp and the highway was clear as John Doe steered his car around a "slow poke" driver on Bethel Valley Road. What John failed to see was the reason for the other driver's slowness: three deer were crossing the road in front of him. As John passed the other car one of the deer leaped for the other side of the road, straight into the path of his car.

Although the dead buck weighed less than 150 pounds, the accident caused more than \$300 damage to John's new 1976 Mustang. What shook John up even more than the damage to his car was the realization that, had the deer landed in a slightly different position, it would have sailed through the windshield and he might have been seriously injured.

The story above, though dramatized a bit, is true. Similar incidents on the Oak Ridge area happened once in 1969, three times each in 1970 and 1971, five times in 1972, 11 times in 1973, 12 times in 1974, 16 times in 1975, and once already (January 13) in 1976.

Many Nuclear Division employees are unaware that a herd of Virginia white tailed deer roams free on the controlled area. Unfortunately, like John Doe, some have learned the hard way.

The increasing number of deer killed by motorists each year is partially due to the steady increase in their population in the area. According to Jay Story, Environmental Sciences Division, the Oak Ridge deer live under conditions which maximize their growth and reproduc-

tivity: good grazing areas are available and there are practically no predators.

### Concern for motorists

"Our primary concern is the safety of the motorists who must drive through the reservation," said Story. To date, no personal injury has resulted from the deer killed on the reservation, although damage to vehicles has ranged from \$300 to \$700 each time. The dead deer have varied in size from 35 to 239 pounds.

A University of Tennessee graduate student, in a study to determine the number and location of the deer on the reservation in 1974-75, estimated the number to be between 250 and 300. Story and Tom Kitchings, another environmental scientist, are continuing the study to get a more accurate determination of the number, size and location of the deer.

Areas where motorists should be especially cautious of deer crossing the highway, based on past road kills, are: Bethel Valley Road in the ORNL area; Highways 58 and 95 near ORGDP, Bear Creek and White Wing roads, and other side roads and places where utility corridors cross the highway.

### Things to remember

The following information may help motorists avoid collisions with deer on the reservation:

- Deer are able to clear a 10-foot fence, so don't assume that fenced-in areas are safe.
- Deer usually graze and cross the highway in areas where power lines are located.
- Deer are most active during the fall and winter months, and particularly early in the morning and late at night.
- The deer may travel alone, in pairs, or in herds, so if you spot one, watch for others.



**ON CANDID CAMERA** — A startled Virginia white tailed deer pauses at the flash after tripping a hidden camera on the Oak Ridge controlled area. Researchers in ORNL's Environmental Sciences Division have set up the tripod-mounted Polaroid and several others like it in an attempt to learn more about the size and movements of the area's population.

## Supervisory upgrading sees unique training at ORGDP

The Cascade Improvement and Cascade Upgrading expansion programs have brought about significant increases in the plant work forces in all areas at the Oak Ridge Gaseous Diffusion Plant. These expanding programs and new employees place additional responsibility on first-line supervision and general foremen.

ORGDP management has introduced a unique training program for general foremen to allow them to upgrade and sharpen their supervisory skills. This program was developed by representatives of the same management group that is to be trained. This program is patterned after the Union Carbide Management System and uses the principle of

individual goals and achievement measuring.

All general foremen in the production organizations are engaged in this training program which includes weekly sessions for eight weeks. Following completion of this course, the general foremen will conduct a similar course for all first-line supervisors reporting to them. In this manner, the goal-setting process is achieved from within, targets are established, communications and understanding achieved, and the opportunity for teamwork strengthened. The key difference is that these sessions produce elements of the Management System as they relate to the actual work rather than

## question box



If you have questions on company policy, write the Editor, Nuclear Division News (or telephone your question in, either to the Editor, or to your plant contact). Space limitations may require some editing, but pertinent subject matter will not be omitted. Your name will not be used, and you will be given a personal answer if you so desire.

### Scheduling around classwork

**QUESTION:** Is there a written policy or general guidelines regarding adjusting work schedules for weekly salaried personnel who want to attend day classes at the University?

**ANSWER:** The procedure for rescheduling work hours or reducing work schedules of salaried employees to enable them to take undergraduate or graduate courses during regularly scheduled work hours is described in SPP-D-5-3 (University Studies).

Such changes require the advance approval of supervision and the installation head. Although there are not any specific guidelines for granting such approvals, supervision normally takes into consideration the relationship between the courses to be taken and the employee's present or anticipated work assignment, the employee's past work performance, educational achievements and probability of successful completion of the courses, etc. Approval is always contingent upon an employee's ability to perform his/her work assignment under proper supervision during the rescheduled hours. Also, the rescheduling of hours must not result in overtime payment.

The State Highway Department has been contacted concerning the problem and signs indicating "deer crossing" will soon be installed on highways running through the reservation.

Anyone who hits a deer or observes that one has been hit is asked to report the incident to the guard department or shift superintendent's office at either ORNL, ORGDP or the Y-12 Plant. Motorists are not penalized for accidentally killing deer on the area.

dealing only in exercises of the theory.

The program is being led by Billy H. Bramblett and James E. Haskell, Fabrication and Maintenance; Ben H. Teague and John E. Shoemaker, Operations; Donald R. Vanover, Barrier Manufacturing; George E. Bullock, Security and Plant Protection; William H. Taylor, Separation Systems; Joyce R. Davis, Finance, Materials and Services; and Dave R. Passons, Plant Methods and Environmental Group.

The program, through first-line supervision, is expected to be completed by June 30.

### Move dances to Saturdays?

**QUESTION:** Is there some reason Union Carbide dances at Paducah are always held on Fridays? We people who work straight afternoons would like to go to these dances if they were held on Saturdays instead of Fridays.

**ANSWER:** Most dances have been held on Friday for three reasons: 1) most employees say that's when they would rather have the dances; 2) better facilities are usually available on Fridays than on Saturdays; and 3) a better band can normally be obtained for the same money on Fridays than on Saturday.

If we are wrong in thinking most employees prefer Fridays, we can take another look at this matter. We would suggest that any employees who are unhappy with the Friday schedule get in touch with Keith Bryant, extension 368.

### Minority group definition

**QUESTION:** The Company treats women and blacks as minorities. Does it consider Jews as a minority group?

**ANSWER:** We follow Federal regulations which define only four minority groups: Blacks, Spanish Surnamed Americans, Orientals, and American Indians. This concept, which is used by the Equal Employment Opportunity Commission and the Office of Federal Contract Compliance, does not denote clear-cut scientific definitions of anthropological origins. ("Spanish Surnamed American" includes all persons of Mexican, Puerto Rican, Cuban or Spanish origin; Eskimos and Aleuts are included in the "American Indian" category.)

Discrimination on the basis of religion, however, is specifically prohibited by an Executive Order as well as by the Civil Rights Act. Federal regulations and procedures which apply to minority groups are different from those which apply to religious groups.

### Secretaries' salaries

**QUESTION:** Why are new, inexperienced secretaries hired in at almost \$600 per month when secretaries like myself with more than 17 years with the Company make only \$725? The secretaries with more company service are still being discriminated against.

**ANSWER:** The entry rate for secretarial positions is determined through analysis of the local market, qualifications of the person being hired, and the job to which they are to be assigned. If you are performing your job satisfactorily, your rate of \$725 per month is inconsistent with rates paid for secretaries with 17 years' company service. We recommend that you contact your supervisor and/or your facility salary office.

The next issue will be dated February 19. The deadline is February 10.



## Enviably safety record set by four ND facilities

For the ninth consecutive year Nuclear Division employees maintained a disabling injury frequency rate less than 0.7, averaging a rate of 0.49 over the nine years, an enviable safety performance by any comparison. (1.42 for all Energy Research and Development Administration facilities; 1.81 for Union Carbide Corporation; and 4.12 for the chemical industry in the United States) Disabling injury frequency rate is defined as the number of lost-time injuries sustained for every million man-hours worked.

A total of 18 occupational disabling injuries resulted last year in a frequency rate of 0.61. Five of the disabling injuries resulted from moving objects; four resulted from falls; four from falling objects; and two resulted from explosive reactions. A plant breakdown showed the 18 injuries as follows: Oak Ridge Gaseous Diffusion Plant, six; Oak Ridge National Laboratory, two; Paducah Gaseous Diffusion Plant, seven; and the Y-12 Plant, three.

ORNL earned UCC's highest safety award, the Award for Distinguished Safety Performance, for working 4,543,462 hours, (217 days), without a disabling injury. Paducah earned UCC's Award for Safety Achievement for a period of 1,744,771 man-hours (214 days) without a disabling injury.

While on-the-job safety continues to be the envy of industry all over the country, Nuclear Division personnel experienced 308 off-the-job disabling injuries last year, including four fatalities. This gave us a frequency rate of 5.05, compared to 4.82 in 1974. Of these injuries, 136 occurred in the home; 106 in transportation; and 66 in public. A total of 10,224 days were lost due to off-the-job disabling injuries in 1975!

Employees from the four installations are selecting safety awards for their 1975 performances.

Y-12ers are choosing: a calculator; an auto vacuum; an electric drill; a 100-ft. extension cord; a fire extinguisher; a gun case; hamburger cooker; an ice chest, ice cream

freezer; a Corning Ware set; a percolator; pocketknife; portable AM-FM radio; a spinning reel; sander; sleeping bag; tackle box; and a tool box.

Employees at ORGDP are choosing: an electric drill; a jig saw; hair dryer, Corning Ware set percolator; 50-ft. extension cord; fire extinguisher; socket set; electric alarm clock; AM & FM radio; steam iron; picnic cooler; electric can opener; portable mixer; spinning reel; calculator; and tackle box.

Paducah employees will have a choice from nine items: a cigarette lighter; ice chest; travel alarm clock; combination can opener-knife sharpener; hand mixer; pen and pencil set; drop light; tool box; and an Airguide thermometer.

Employees at ORNL will select: a folding rocker; hose reel; electric sander; jig saw; drill; sleeping bag; four-quart cooker; vacuum bottle; back pack; club aluminum ware; Corning Ware set; seven-piece cutlery set; AM-FM radio; digital clock; dozen golf balls; hunting knife; calculator; and an electric tooth brush.

As employees select safety awards from all four Nuclear Division installations, special emphasis is placed on improving the present records even more.

"The perfect record, of course," officials agreed, "would be absolutely no accidents at all. But, since we do not live in Utopia, we first direct our efforts to observing safety rules and regulations, and thus reduce the number of accidents drastically."

**A photo of awards for employees at the Oak Ridge Gaseous Diffusion Plant appears on page 8 of this issue.**

### CONSERVATION TIPS

*Remember: Heat your house only when you're home. Close off doors, windows, and rooms which you don't use. If some parts of the house are cold, move heat from warm rooms and away from radiators and stoves to heat the cold areas.*

### Savings Plan-Personal Investment Account

Recent unit values:

	Fixed Income Fund	UCC Stock	Equity Investment Fund
August 73	10.0000	34.7688	10.0000
December 73	10.2444	31.8170	9.3602
December 74	11.0438	40.3009	6.4354
September 75	11.7399	59.1637	7.4316
October 75	11.8238	58.2720	7.8003
November 75	11.9089	58.2039	7.9946
December 75	11.9880	58.7886	7.8231

Note: Fixed Income Fund unit values reflect interest additions to achieve the guaranteed effective annual interest rate of 8.55% for 1975. Union Carbide stock values are the average cost of stock purchases during the month plus brokerage charges. Equity Investment Fund unit values represent the month-end market value of securities held by the Fund. Dividing the total value by the number of units in the fund establishes the month's unit value — and the price at which new units are added that month.



**ORNL SELECTIONS** — Employees from Oak Ridge National Laboratory select from the 18 articles shown, as they earn Union Carbide's highest safety citation for the 4,543,462 man-hours worked in 1975 without a disabling injury.

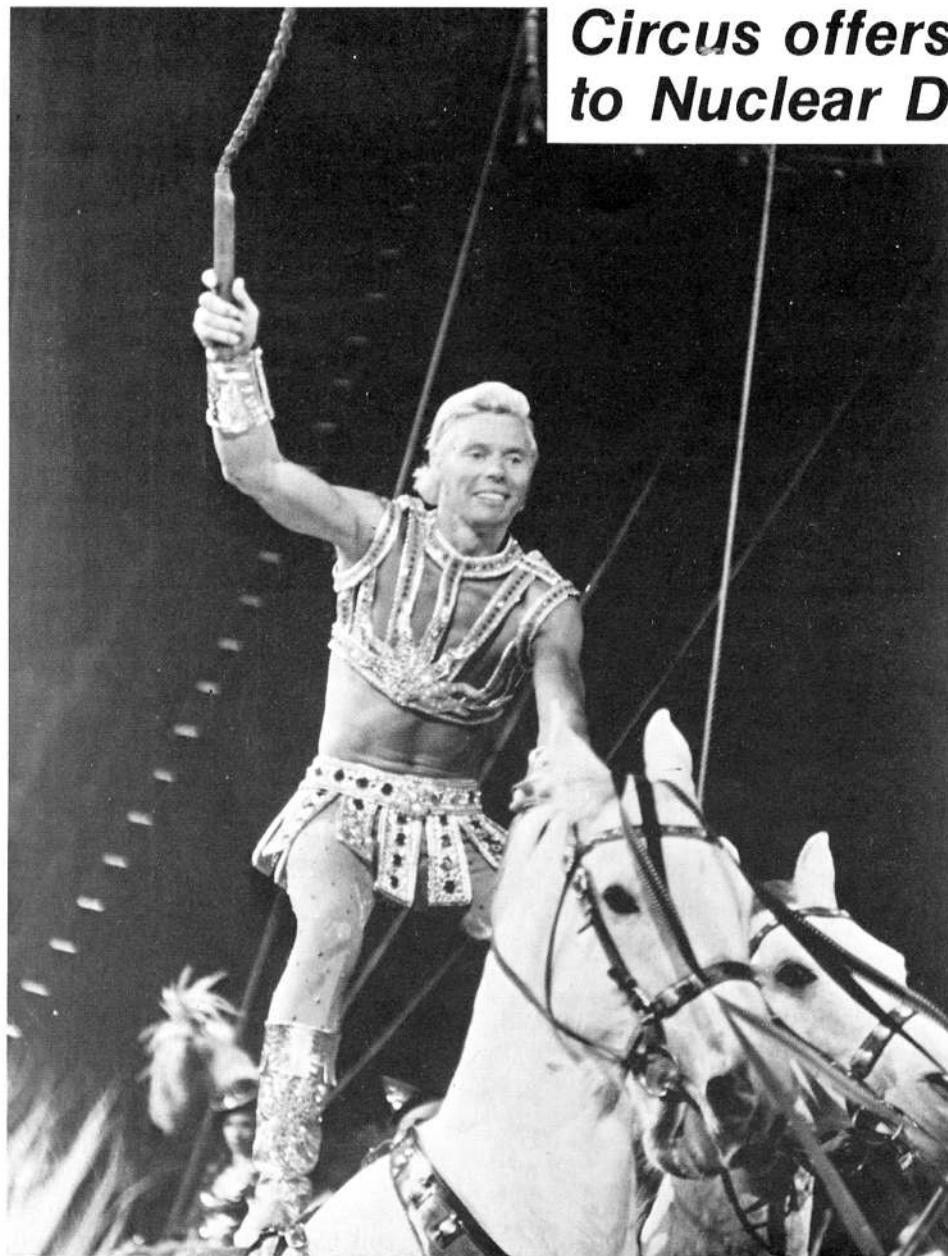


**Y-12 EMPLOYEES SEE AWARDS** — Awards for Y-12's safety records through 1975 were displayed throughout the plant. Above, the awards are seen in



the lobby of the cafeteria. Through the years the Y-12 Plant has established a safety record that is the envy of industry throughout the country.





**ANIMAL THRILLS** — Gunter Gebel-Williams is one of the exciting features in the Bicentennial Edition of Ringling Brothers, Barnum and Bailey Circus. Nuclear Division employees may wish to take advantage of discount tickets available for performances in Knoxville March 17, 18 and 19. A ticket application appears below.

## Circus offers discount tickets to Nuclear Division families

It's called the greatest show on earth! Ringling Brothers, Barnum and Bailey Circus is offering discount tickets to all Nuclear Division employees and their families for three days of the circus' big shows next month.

A \$1.50 discount will be allowed for either of the top two ticket prices (\$6 and \$5) and are available for the following five performances: Wednesday, March 17, 4:15 p.m. and 8:15 p.m.; Thursday, March 18, 4:15 p.m. and 8:15 p.m. and Friday, March 19, 4:15 p.m. only. In addition to the above discount, the Circus will donate 50 cents for each ticket purchased by an employee to the Knoxville Zoological Park in the name of Carbide employees.

### Gala production

The Bicentennial Edition of the big show begins with a "Stars and Stripes" salute, heralded by Paul Revere and his famous ride. The entire circus family of 300 performers and 200 animals fill the arena in a visual display of red, white and blue, wearing multi-million dollar wardrobes designed as a tribute to the nation's 200th anniversary.

A wild-west elephant production will feature Gunter Gebel-Williams and his famous herd of pachyderms appearing simultaneously with a group of horses. Responding to verbal commands, the herds perform astonishing tricks, accompanied by the usual dozens of clowns, showgirls and company in a square-dancing, spur-jingling western production.

### Children participate

The finale is a colorful salute to the USA, with a traditional Independence Day parade, filling the arena with the color and excitement of the entire company passing in review.

Children from the audience will be selected to participate in a special section called "Circus Spirit of '76."

Employees wishing to take advantage of the discount ticket offer are urged to clip the coupon (left) and mail today. **DO NOT MAIL TO THIS OFFICE.** The address, and how your check or money order is to be made, is included in the application. Early application is urged so that first choice of a date may be honored. A stamped, self-addressed envelope should be included with the order.

The discount allows employees to purchase top tickets for \$4.50 and \$3.50 ... which includes a 50¢ donation to the Knoxville Zoological Park for each ticket purchased.

### ORNL BOWLING

The Gutterfinks hold fast with their eight and one-half point lead in the A League, thanks to big pin count of 2910 scratch recently ... and individual high game to Farrelly.

The C League sees the Pin Heads only three ahead of the Damagers as the Remkeys move up fast in third place. Nat Hill put a 599 scratch series together recently ... games of 226, 182 and 191. The Cellar Dwellers' R. C. Greter posted a 263 handicap single.

ORNL Ladies League again saw

### ORGBP BOWLING

The All Stars still hang onto the lead in the Tuesday League, as ORGBP bowlers swing into the big All Carbide tournament this week-end. Dan Kessell, All Stars, showed them a thing or two in mid-January, posting a 225 single game ... Sewell Brown, Newcomers, tallied a 575 series ... both scratch scores, of course.

The Amps and Planners tie for first half and will be forced into a roll-off, set for this week. Clyde Bolen led bowlers recently with a 251 single, as Roy Dukes rolled a rollicking 657 series ... all in the Wednesday League.

The Payoffs hold a four and one-half point lead in the ORGBP Women's League, ahead of the Starlites. Irene Carmack dominated the boards recently, singles of 194, 233; series of 545, 662. The Uptowners took team honors, single handicap of 794, series handicap of 2371.

### VOLLEYBALL LEAGUE

The Diggers dominate volleyball action, still, as they plow through the Atomic League with only one loss. The Taxi Squad posts only two games lost in the same league.

League standings follow:

#### CARBON LEAGUE

TEAM	WON	LOST
The Skinks	39	6
The Ball Busters	37	8
Hawks	31	11
The Group	29	19
Gass House Gang	23	19
Odds & Ends	24	21
Sud Soakers	23	22
Are You Sure?	19	26
GLCA Students	12	36
Rinkey Dinks	7	38
The Smashers	5	43

#### ATOMIC LEAGUE

Diggers	33	1
Taxi Squad	36	2
Quarks	24	15
Ecomen	24	18
Sportsmanship	14	22
Old Men	13	23
Shooting Stars	3	33

#### NUCLEAR LEAGUE

Rad-Fizz	25	8
Pogo's	21	9
Over-the-hill Gang	23	10
Artie's Army	22	11
Computes	17	16
Maxwell Demons	12	21
Lucky Spikes	15	18
Sloths	9	21
Wolfpack	0	30

### HOLE-IN-ONE OUT WEST!

Y-12er George F. Cozart, dimensional inspection, had a happy time out west during the holidays. Vacationing in Albuquerque he had a hole-in-one at the Tijeras Arroyo Golf Course, hole number 14, a 172-yarder, par three hole. The feat was attested by W. T. Cozart, a member at the Tijeras club. George used a four iron for the big occasion.

## UNION CARBIDE CORPORATION

## CIRCUS DISCOUNT TICKETS

Mail to:

Ringling Bros., Barnum & Bailey Circus  
Knoxville Civic Coliseum  
P.O. Box 2603  
Knoxville, Tennessee 37901

Prices: \$6 \$5

Deduct \$1.50 for each ticket



Number of tickets \_\_\_\_\_ @ \_\_\_\_\_ ea. = \$ \_\_\_\_\_  
(Please indicate 1st and 2nd choices)

Wed. Mar. 17 - 4:15 p.m. \_\_\_\_\_; 8:15 p.m. \_\_\_\_\_  
Thurs. Mar. 18 - 4:15 p.m. \_\_\_\_\_; 8:15 p.m. \_\_\_\_\_  
Fri. Mar. 19 - 4:15 p.m. \_\_\_\_\_

Name \_\_\_\_\_

Address \_\_\_\_\_

\_\_\_\_\_ Day telephone \_\_\_\_\_

Do not mail cash. Make check or money order payable to Ringling Bros. Circus. Please enclose stamped self-addressed envelope for return of tickets.





## medicine chest

by T. A. Lincoln, M.D.

(Editor's Note: Dr. Lincoln alternates his regular column with "The Medicine Chest," where he answers questions from employees concerning health in general. Questions are handled in strict confidence, as they are handled in our Question Box. Just address your question to "Medicine Chest," NUCLEAR DIVISION NEWS, Building 9704-2, Stop 20, Y-12, or call the news editor in your plant, and give him or her your question on the telephone.)

**QUESTION:** "What can you tell us about the health effects of reducing the air and water temperature, both at home and at work, in order to conserve energy?"

**ANSWER:** Since many people hold strong opinions as to what temperatures are most comfortable, a few facts need to be covered before attempting any general answer to this "loaded" question.

Several early studies showed that the least number of deaths occurred when the outside temperature was approximately 60 degrees Fahrenheit and no inside heating was in use. Death rates are highest during the winter months, presumably due to respiratory infections which kill people weakened by age and degenerative diseases.

Respiratory infections appear to be less common or less severe during the winter if the indoor relative humidity can be maintained at a reasonable level. In a study of 12 Saskatoon public schools in Saskatchewan, Canada, there was an inverse relationship between indoor relative humidity and absenteeism: there was 20 percent less absenteeism when the relative humidity was 35 percent as compared to 22 percent. The difference largely reflected a decline in absences due to colds. Similar studies have been performed in other schools and in military barracks, with comparable results.

### 25-50 percent humidity best

The mucous membrane of the respiratory tract apparently has a higher resistance to attack by viruses and bacteria when the indoor humidity is kept reasonably high — preferably about 40-50 percent. Airborne microorganisms do not survive or infect as well when the relative humidity is between 25 to 50 percent as they do either below or above that range.

Considering the beneficial effects of adequate relative humidity, it is surprising that the General Services Administration says, "Humidity controls on both heating systems and cooling systems are to be eliminated for general office use." The energy required to maintain relative humidity is not high.

Men tolerate cold and adapt to changes in environmental temperatures better than women. Their comfort is not affected as much by body weight. Women become noticeably less tolerant of heat and more tolerant to cold when they are overweight.

Thin men exposed to cold increase their basal metabolic rate but also

lose more heat from their skin. Fortunately, there is usually a net increase in the skin temperature. Fat men are less responsive to cold and tolerate it generally better than thin men. Individuals afflicted with rheumatic and arthritic conditions are bothered by cold, which sometimes causes increased stiffness and pain.

### Cooler water not harmful

Proctor and Gamble has studied body washing habits of many people. The temperature at which incidental hand washing is done largely determines the speed at which a satisfactory lather can be obtained. Both soaps and detergents are somewhat less efficient at lower temperatures but work satisfactorily. Few people enjoy cold showers, but reducing the temperature of the hot water, thereby requiring less cold water to cool it, saves energy. When washing dirty hands, soaps made from coconut oil make a better lather at lower temperatures.

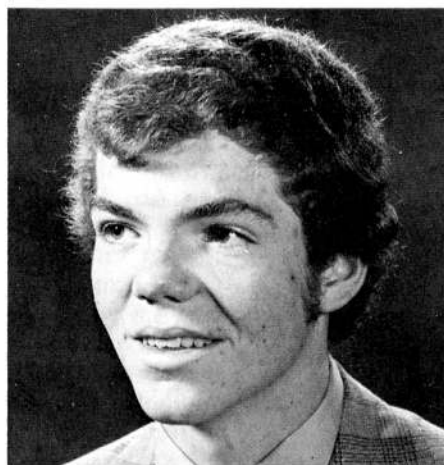
Now for my "general" answer. If people dress adequately, and are protected from unnecessary cold drafts or extremely cold floors, there should be no significant adverse health effects from an ambient temperature of 68 degrees. Relative humidity should be kept between 30 and 50 percent. Ordinary hand washing should not be adversely influenced by reducing water temperature.

Any temperature change of air or water, however, will be accepted only as people understand or appreciate its need. In general, the American public feels it is regularly being manipulated for someone else's political or economic advantage, so it will be hard to convince them that energy conservation efforts which require much discomfort or are marginally effective are necessary.

**QUESTION:** "How long can a person survive when his boat capsizes in cold water?"

**ANSWER:** Incapacitation in cold water is due to loss of body heat (hypothermia) and neuromuscular impairment. Of the two, the latter is probably far more important. Cooling of sensory and motor nerves in the arms and legs, and particularly in the hands and feet, will lead to dysfunction approaching a paralysis. The onset is rapid and may occur when the core body temperature is still nearly normal. The ability to swim or to hang onto a boat can be lost quickly.

## David Caudill will attend workshop as Carbide Scholar



T. David Caudill

Thomas David Caudill, son of Mr. and Mrs. Hugh H. Caudill, 107 Dixie Lane, Oak Ridge, has been selected to attend a Washington Congressional Workshop as a Union Carbide Scholar.

Caudill was recommended for the honor by the faculty of the Oak Ridge High School. His nomination was supported by Union Carbide Corporation's Nuclear Division.

As a recipient of the honor, Caudill will participate in a seminar March 7-14. Participants are housed at Mount Vernon Junior College where most of the seminar sessions are conducted.

The curriculum for the seminar will include classes, discussions with members of Congress, attendance at House and Senate Chamber sessions and committee meetings, and talks by Cabinet members and other national

### Icy water impairs circulation

When exposed to cold, the human body protects itself against heat loss by decreasing the amount of blood flowing to the skin and extremities. In extreme cold it causes almost a close-down of circulation which amounts to a "physiological amputation." The severity and time of onset, of course, is influenced by the amount of clothing worn and the physical activity of the extremity before and during the immersion.

When considering hypothermia, a core temperature of 91.4 degrees F is the lower limit for maintaining useful activity. In one study, done in water at 51 degrees F, strong, young, healthy volunteers, clad only in cotton shirts, pants, socks and running shoes, could swim about eight-tenths of a mile before incapacitation occurred.

Studies show that heat loss in cold water is greatest from the groin and the sides of the chest. If prompt rescue is probable, heat loss should be prevented by keeping the thighs against the abdomen and hands around the life jacket. If prompt rescue is not possible, swimming may be the only hope.

In any case, when rescue occurs, rewarming should be rapid. If the victim is comatose and a long way from a hospital, put him carefully in a tub of warm water between 90 and 106 degrees F and stay with him constantly. Do not rub him, but passively move his extremities.

If he is conscious, keep him warm and get him to a hospital as quickly as possible. Severe cardiac and respiratory problems may occur within the first two to three hours, so close observation by experts is necessary.

leaders, both in and out of government.

Caudill, a senior at Oak Ridge High School, is a member of the Superintendent's Advisory Council, and was a participant in the North American Invitational Model United Nations. He has been active in student government, drama, the International Relations Club and has been an editorial writer for the high school newspaper.

As a Union Carbide Scholar, the full cost of Caudill's participation in the Congressional Workshop program is being defrayed by Union Carbide Corporation.

Caudill's father is in the Chemical Technology Division of Oak Ridge National Laboratory.



**WANTED**

### Y-12 PLANT

RIDE WANTED from West Knoxville, I-40, Kingston Pike area to Biology or North Portal, straight day. J. W. Whittaker, plant phone 3-5113, home Knoxville 584-8987.

### ORGDP

TWO CAR POOL MEMBERS from Gleason Drive and Montview Road, Knoxville, to Portal 2, straight day. J. F. Winsette, plant phone 3-3423, home phone Knoxville 693-1524.

JOIN CAR POOL from Valley View Road, Knoxville, to Portal 4, straight day. Walter Brock, plant phone 3-3068, home phone Knoxville 523-6779.

## patents granted

To John Shacter, General Staff, for "Stage Design."

To William O. Gentry, Oak Ridge Gaseous Diffusion Plant, for "System for Detecting Gaseous Contaminants in Air."

## NUCLEAR DIVISION NEWS



UNION CARBIDE CORPORATION  
NUCLEAR DIVISION

James A. Young, Editor  
Ext. .... 3-7100  
Carol Grametbauer, Assoc. Editor  
Ext. .... 3-6266  
Keith Bryant, Paducah  
Bell .... 369  
Doug Carter, ORGDP  
Ext. .... 3-3434

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Office  
Post Office Box Y  
Oak Ridge, Tenn. 37830



## division deaths

Hollis E. Smiley, a 10-year veteran in the Oak Ridge Gaseous Diffusion Plant's fire department, died January 19 in a Knoxville hospital.



Smiley; and sisters Carolyn Smiley and Mrs. Roy Harklerood.

Funeral services were held at the Holley-Gamble Funeral Chapel, with the Rev. Wayne Provence and the Rev. Troy Christopher officiating. Burial was in the Asbury Cemetery.

Alfred P. Brown, Y-12 Maintenance Division, died January 26 in a Knoxville hospital. He had been at Y-12 and the Oak Ridge Gaseous Diffusion Plant more than 21 years, and was a veteran of the U.S. Army.



sons; six brothers, and two sisters.

Funeral services were held January 29, at the Sharp Funeral Home with the Rev. Bob Johnson officiating. Burial followed in the Anderson Memorial Gardens.

Survivors include his wife, Betty; sons, Hollis E. Jr. and Wallace B. Smiley; daughter, Kathryn Smiley, 174 Garden Road, Norris; his mother, Mildred Smiley; brothers, James and George

Survivors include his wife, Helen Lowe Brown, Route 1, Frost Bottom Community, Oliver Springs; two daughters, Lillian Brown and Mrs. Paul Strickland; a son, Charles M. Brown, two grand-

## anniversaries

### GENERAL STAFF 30 YEARS

Robert F. Hibben, General Accounting Division.

### 25 YEARS

William J. Grumbach and Bernard E. Black.

### 20 YEARS

James A. Young.

### ORGDP 30 YEARS

Jack Smith, fabrication shop department; Bruce J. Bogardus, operations planning department; Vilmer H. Kiplinger, Engineering Division; Leon H. Gooch, U-235 separation department; George W. Leever Jr., shop services department; Oren Green, machine shop department; Billy H. Bramblett, maintenance division administration; Joe L. Scales, building maintenance department; Julius P. Culp, operations department; Virgil T. Murphy, shop services department; and Thomas F. Mullinix and William H. Moon, Engineering Division.

### 25 YEARS

Jack L. Gamble, Robert R. Snyder, Porter W. James, Mary P. Jones, Paul E. Riedel Jr., Emma H. Norman, Charles R. Williams and William Halchin.

### 20 YEARS

James J. Maginnis and Harry L. Thornton.

### ORNL 30 YEARS

Andrew J. Thompson, Engineering; Fernde Irwin, Physics Division; James A. Blair, Plant and Equipment Division; James H. Olivier, Chemistry Division, and Gwendolyn C. Wicker, Information Division.

### 25 YEARS

James W. Teague, Samuel M. Decamp Jr., Karl W. West, Samuel R. Darr, Ralph H. Rose, Mabel M. Honaker, Bettye F. Burns, William R. Miller, Mark T. Robinson, Delmar D. Montgomery, William R. Laing, Edgar W. Brown and Raymond L. Walker.

### 20 YEARS

Paul J. Jones, Billy J. Howell, Harry R. Child, Willie A. Baker, James W. Hendricks, Arlee P. Teasley and Georgia D. Card.

### Y-12 PLANT 30 YEARS

Dewey J. Nichols, material specimen shop; William T. McBryde, and Walter W. Rice, laboratory operations.

### 25 YEARS

Homer R. Ellis, Claude M. Williams, Merwyn Sanders, Clarence L. Hawkins Jr., Buford L. Fain, Dolphus L. Holbert, Claude H. Manis, John G. Scogin, Levator G. Cotter, Mary B. Phillips, Judge D. Kile, Paul Surber, James G. McArthur, Will B. Davis, Johnnie C. Jordan, Harry Baker, James D. Burns Jr., William Warmley Jr., Margaret S. Stewart, Ralph H. Lovin and William E. Chadwick.

### 20 YEARS

Thomas D. Bagwell, Miles W. Bailey, Noble G. Young and Carl Leach.

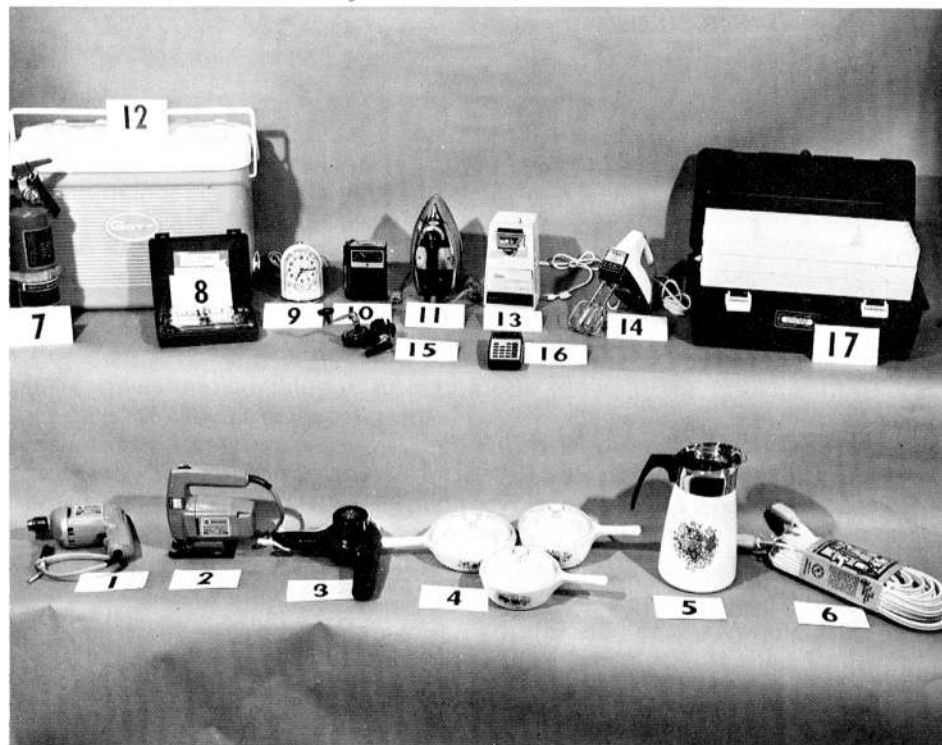
## Toll enrichment tops \$253 million during calendar '75

More than \$253 million in toll enrichment services were recorded at the Oak Ridge Gaseous Diffusion Plant during 1975. This compares to \$144 million in calendar year 1974, and \$106 million in 1973.

Under the Toll Enrichment Program, privately licensed owners bring their uranium to the Gaseous Diffusion Plant for enriching on a toll basis. Customers are charged for the services required to separate from natural uranium the desired percentage of uranium-235 isotope, usually between two and three percent.

During 1975, reactor facilities in 13 states and six foreign countries participated in the Toll Enrichment Program at the Oak Ridge Gaseous Diffusion Plant. The \$253 million in services was for enrichment furnished to more than 2,700,000 pounds of customer uranium.

The Paducah Gaseous Diffusion Plant and one in Portsmouth, Ohio, also participate in the uranium enrichment program.



ORGDP AWARDS — Oak Ridge Gaseous Diffusion Plant employees are choosing from the above awards for their 1975 safety performance.

### Y-12 BOWLING

The Friskies and Rollers are deadlocked for first place in the Y-12 Mixed League, as the Roses'n Thorns and Splinters breathe close by in second place, only three games back. C. R. Lively out-bowled men last week with a 223 scratch game ... and Alice Forseman put a 238 handicap single up on the boards. Vivian Butturini paced her team with a 224 handicap single.

The Playboys and Rippers share a one-half point lead in the Classic League, as Apollo Five hovers close in second place, early in the league's second half. Jim Lawhorn, Rippers, ripped the lanes apart a couple of days ago, posting a single of 286 handicap ... a series of 726! His scratch count was 256,636 ... which is even more impressive.

The C League puts the Sunflower atop the head, with the Mini-Strikes in close pursuit. Charlie Baxter's 641 scratch, 713 handicap series is still tops ... as are his singles of 238 and 262.

### SECOND WOODCUTTING SET

Due to the wet weather conditions prior to the January 30-31 woodcutting, a second cutting has been scheduled for the weekend of February 13 and 14. For additional information phone Dennis Bradburn, ORNL Forestry Management, extension 3-1266.

## wanted

### ORNL

RIDER from Fountain City area, to East Portal, 8 to 4:30 shift. George Hamilton, plant phone 3-6024, home phone Knoxville 687-8262.

TWO CAR POOL members from West Oak Ridge area, Nebraska or Westover, to ORNL's North Portal, straight day. Richard Kerchner, plant phone 3-6933, home phone Oak Ridge 483-1975, or Ronald Battle, 3-1439, 483-4544.



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